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AUTHOR	Johnson, Carl I.
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ABSTRACT

This booklet describes the test development process used to upgrade New Jersey's basic skills competency test, the High School Proficiency Test (HSPT). Ninth-grade students in New Jersey public schools must pass this test of reading, writing, and mathematics skills in order to receive a state endorsed high school diploma. Test development committees composed of members representing elementary, secondary, and higher education, as well as the business community, parents, and the New Jersey State Department of Education were formed in the areas of reading, writing, and mathematics. The procedures they followed included: (1) identification of skills to be tested in reading, writing, and mathematics; (2) selection of a contractor capable of writing the test items, producing and printing the booklets, scoring the tests, and distributing the test results to local school districts; (3) field testing items to gather empirical evidence of their validity and reliability; and (4) final selection of test items based on field testing results. This test development process is repeated annually, adding new items for testing the same skills. The interval between initial writing of test items to production and distribution of tests is ten months. Appendices include lists of committee members and extensive skill lists. (KSA)

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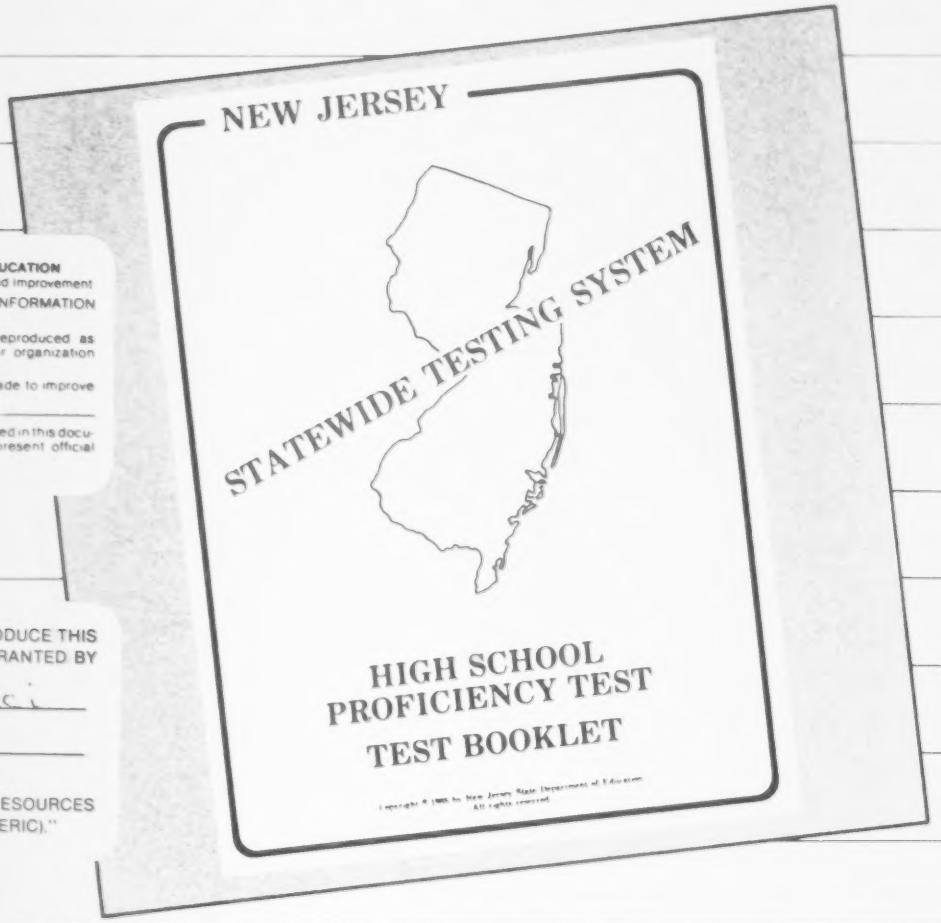

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Identification of the Skills and Development of the Items

TEACHING LEARNING TESTING

New Jersey Department of Education, Division of General Academic Education

TM 870 747

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NEW JERSEY HIGH SCHOOL PROFICIENCY TEST: IDENTIFICATION OF THE SKILLS AND DEVELOPMENT OF THE ITEMS

Saul Cooperman
Commissioner of Education

Joel Bloom
Assistant Commissioner
Division of General Academic Education

Written by:
Carl I. Johnson
Bureau of Academic and Cognitive Skills

New Jersey State Department of Education
225 West State Street
CN 500
Trenton, New Jersey 08625

PTM 600.2

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FOREWORD

Recognizing increased expectations for skilled high school graduates to perform economically, socially, and politically in an increasingly complex and technological society, the New Jersey Department of Education has raised academic standards for all students and instituted a new basic skills competency test called the High School Proficiency Test (HSPT). Beginning with the 1985-1986 school year, students entering the 9th grade in New Jersey public schools must pass the test in order to receive a state-endorsed high school diploma. The HSPT, a competency test of reading, writing, and mathematics skills, is a more rigorous basic skills test than the Minimum Basic Skills test (MBS) it replaces.

Our efforts to upgrade the level of student proficiency have included a comprehensive development process both to identify the needed basic skills and to develop the test items that indicate mastery of the skills. The purpose of this document is to describe that process. The development of the process and its documentation are necessary in order to insure the validity of the skills and the test items.

Saul Cooperman
Commissioner

TABLE OF CONTENTS

PAGE

The New Jersey High School Proficiency Test: Identification of the Skills and Development of the Items 1

Background 1
Identification of the HSPT Skills 1
Skills Identification Process 1
Skills Input Process 2
Final Selection of Skills 3
Reading Panel 3
Mathematics Panel 4
Writing Panel 4
Conclusion 4

Developing the HSPT 5

Contracting for Test Production 5
Item Development 5
Item Bias 9
Field Testing HSPT Items 9
Analysis and Review of Field Test Data 10
Conclusion 13

Appendices 17

Appendix A: Skills Identification Panels 19
Appendix B: Skills Area Response Form 23
Appendix C: State Board Resolution 24
Appendix D: HSPT Skills 25
Appendix E: Test Development Committees 42
Appendix F: Collecting Item Content Validity Evidence 46
Appendix G: Glossary 50

The New Jersey High School Proficiency Test: Identification of the Skills and Development of the Items

Background

The High School Proficiency Test (HSPT) is a ninth-grade competency test of reading, writing, and mathematics skills that was developed to replace the Minimum Basic Skills (MBS) test. The MBS, which assesses minimum skills in reading and mathematics, has been administered annually since 1978. The HSPT, a more rigorous basic skills test, was first administered in 1984.

The HSPT, like the MBS, is based on a defined set of skills (objectives). New items are written each year based on a comprehensive development process. The purpose of this document is to provide complete details of the skill identification and item development process.

Identification of the HSPT Skills

One of the first tasks associated with the development of the HSPT was the identification of the skills to be tested. Three test content area panels, composed of members representing elementary, secondary, and higher education, boards of education, businesses, and parents, met in Winter, 1983, to help the department identify the new skills for reading, writing, and mathematics. The skill selection was to reflect the Commissioner of Education's charge to the panels that the new test be more rigorous than the MBS test and establish higher educational standards in the state. The skills and competencies tested were to be those a student needs in order to become a productive citizen in our society and should master by the end of grade nine.

Participants on the three panels were identified with the assistance of educational associations, including the New Jersey Association of School Administrators, New Jersey School Boards Association, New Jersey Teachers of English Association, New Jersey Reading Teachers Association, Association of Mathematics Teachers of New Jersey, and the New Jersey Parent Teachers Association. Also contacted for participation was the New Jersey Chamber of Commerce. The reading and mathematics panels consisted of 11 people while the writing panel included 24 people. The writing panel was larger in that it included members of a panel that had first investigated the development of a writing test in 1980, plus additional participants appointed at the time the reading and mathematics panels were formed. Appendix A lists the members of each panel.

Skills Identification Process

The panels met approximately every three weeks throughout the winter and spring of 1983 and debated the unique problems inherent in developing a high school graduation test at the ninth-grade level. In the course of their duties, they selected the following evaluation criteria to determine which skills should be measured by the new test:

- Is the skill perceived to be important for all students to master?
- Is the skill likely to be taught and mastered by the end of grade nine?
- Is the skill important, but more likely to be taught and/or mastered after grade nine?
- Is the skill more appropriate for testing at primary and intermediate grade levels?
- Is the skill a recurring one to be tested among more sophisticated and complex problems and/or materials?

Using the criteria above, the panels reviewed the skills assessed by five major standardized achievement tests at grades three, six, and nine. Also reviewed were the Minimum Basic Skills (MBS) test and the New Jersey College Basic Skills Placement Test (NJCBSPT). In addition, seven textbook series were examined to identify the skills presented at the primary and intermediate grades.

Following these reviews, the panels made the initial selection of skills which should be assessed by the HSPT for each subject (reading, mathematics, and writing). In addition to identifying the skills, the panels also identified conditions to be used to assess each skill. For example, the mathematics panel specified whether computation should be assessed in a vertical or horizontal format. The identification of skills and conditions for assessing them was completed by March 15, 1983.

In addition to the HSPT skills, the panels also identified sets of "benchmark" skills at the primary and intermediate levels. These skills were the necessary developmental skills which, when mastered, would lead to successful mastery of the grade nine HSPT skills. The terms primary and intermediate were used intentionally to allow districts the flexibility to determine the most appropriate place for these skills in their curricula.

Skills Input Process

After the panels completed the initial selection of the skills, reactions were sought from various statewide educational organizations before the final list of the skills to be tested was prepared. The organizations were asked to appoint committees from their membership to examine the list of skills and to make suggestions on forms provided by the department (see Appendix B). Feedback from these outside reviewers was considered by the panels as they deliberated to determine the final list of skills in reading, writing, and mathematics. The following organizations were asked for input into the development process:

- Association of Mathematics Teachers of New Jersey*
- Chamber of Commerce*
- New Jersey Association for Supervision and Curriculum Development*
- New Jersey Association of School Administrators*
- New Jersey Association of Secondary School Principals and Supervisors*

- New Jersey Congress of Parents and Teachers*
- New Jersey Council of Teachers of English*
- New Jersey Education Association
- New Jersey Reading Association*
- New Jersey School Boards Association*
- New Jersey Science Supervisors Association*
- New Jersey State Federation of Teachers*
- New Jersey Teachers of English as a Second Language*
- New Jersey Vocational Education Association*

*Input received

Final Selection of Skills

The panels met again during April and May, 1983, to review the feedback from the external reviewers and to complete the list of skills for reading, writing, and mathematics. Using their judgment, the panels then identified the final list of skills which would be assessed by the HSPT.

On May 15, 1983, the final reports from each panel, including the skills, the conditions for assessing the skills, prototype items, and additional recommendations, were presented to Commissioner Saul Cooperman.

On June 1, 1983, the Commissioner presented the committee reports to the New Jersey State Board of Education; and the State Board of Education approved a resolution (see Appendix C) accepting the skills listed in each committee report as the basis for the HSPT. The final list of skills for the three discipline areas are listed in Appendix D. Following the action of the State Board of Education, the document Skill Arrays for the New Statewide Testing System, 1983, was published and distributed to all public school districts in September, 1983. This document included the HSPT skills, the conditions for assessing the skills, and prototype test items for each subject area. In addition, the primary and intermediate benchmark skills were included, along with charts that compared the new skills with those assessed on the MBS, the NJCBSPT, and various commercial achievement tests.

With the HSPT skills approved and in place, the next step was to produce a test for administration in Spring, 1984. Each of the panels made additional recommendations for the development and implementation of this new testing program.

Reading Panel

The reading panel stressed that reading skills, including vocabulary, should be tested in context whenever possible and that the reading passages chosen should include expository and narrative materials, with an emphasis on the expository. Selections should be representative of text, magazine, and newspaper materials and should be suitable to the population being tested. The passages should be three to four paragraphs in length and range from 200 to 300 words. The panel also recommended that the reading passages should vary in difficulty, with the reading levels ranging from grades eight to ten and with individual passages testing multiple reading skills. The panel also recommended that care be taken in presenting the reading materials on

the page in terms of the selection of type size, the spacing, and the placement, with the test questions/purpose preceding the selection whenever possible to facilitate ease of reading. The panel recommended that the skills dealing with reference sources and locating information would be tested by using visual representations of the requisite materials. Additionally, a recommendation was made that when an item referred to a specific word(s) in a passage, that the word(s) would be high-lighted (e.g., italics, underlining, etc.). The reading panel also endorsed the assessment of critical comprehension skills, but recommended against assessing word recognition skills for words used in isolation.

Mathematics Panel

Members of the mathematics panel felt strongly that the skills selected should emphasize applications of basic operations and focus on problem-solving experiences that reflect real-life situations. They supported the assessment of basic skill operations on the HSPT in a problem-solving context. The panel also recommended that informal geometry, measurement concepts, and pre-algebra be a part of the school experience that each student should be exposed to and should have mastered, prior to the end of grade nine. Skills which required the application of reasoning as a foundation for the mastery of mathematical concepts and which transfered to other reasoning skills in real-life situations were identified.

Writing Panel

The writing panel emphasized the importance of writing in all discipline areas. Therefore, the panel recommended that the writing test include a student writing sample, as well as a multiple-choice section. Because of the importance of testing writing skills by having students actually write, the committee recommended that the essay portion of the test would comprise 60 percent of the total writing score while the multiple-choice section would comprise 40 percent of the total. The panel also recommended that student writing should be assessed by districts at all grade levels and that writing in all content areas should be encouraged. Also, the skills assessed in the multiple-choice section should not be taught in isolation, but through the use of frequent writing assignments.

Conclusion

The reading and writing skills have remained unchanged since their development. The mathematics skills, although still assessing the same skills as when first developed, were reorganized in February, 1984, by the mathematics committee. Originally, 69 mathematics skills were identified in 1983. As the 1984 HSPT was developed, some of the 1983 skills were not tested because the desire to have at least two or three items per skill would have resulted in too long a test if all 69 skills were included. The mathematics committee reviewed the skills and determined that many of them could be combined. For example, instead of having separate skills for "addition of fractions," and "addition of mixed numbers," the skill became "addition of fractions" with the condition stating that it would include mixed numbers. Through this process, the mathematics skills were reorganized from 69 skills to 45 skills, all of which are now tested each year.

Developing the HSPT

Contracting for Test Production

The next step in developing the HSPT was the identification and selection of a contractor with the capability and experience to write the test items, produce and print the test booklets, score the tests, and produce and distribute the test results to local school districts. To identify potential test contractors, the department wrote a Request For Proposal (RFP) in March of 1983, which detailed the tasks to be completed, and advertised it to solicit competitive bids. Potential contractors submitted responses on how they would complete the tasks specified in the RFP.

Sealed proposals and bids were submitted by three companies seeking the HSPT contract. The companies submitting bids were CTB/McGraw-Hill, National Evaluation Systems, and National Computer Systems. Each proposal was reviewed by a committee of department personnel and a representative from the Department of Treasury to determine which contractor would provide the department with the most technically sound and financially efficient means of conducting the program. The proposals were evaluated using previously established criteria, as approved by the New Jersey Division of Purchase and Property. National Computer Systems (NCS), Iowa City, Iowa, was recommended to be awarded the contract for 1983-84 and 1984-85. The proposal submitted by NCS included plans to subcontract two of the required tasks, item development and essay scoring. The task of item development was conducted by Beck Evaluation and Testing Associates (BETA), and the essay scoring was conducted by Measurement Inc. (MI).

Prior to the 1985-86 school year, the bidding process was repeated. CTB/McGraw-Hill, Plato/Wicat Systems Co., and NCS submitted proposals. NCS was again the successful bidder and was awarded the contract, this time for three years (1985-86, 1986-87, and 1987-88).

Item Development

The first step in the item development process was to have BETA write the items based on the HSPT skills and the conditions established by the skills panels.

For the 1985-86 HSPT, a total of 596 items were written by BETA staff. In mathematics, 208 were written, of which 107 were used on the test. In writing, 104 items were prepared, from which 66 were selected for testing. In reading, because of the dependence of most of the items on reading passages, 284 items were prepared for review, of which 96 were used on the final form of the HSPT.

Three Test Development Committees (TDC) were convened to review the items prepared by BETA. These committees (reading, mathematics, and writing) were composed of subject specialists from schools and colleges throughout the state, plus representatives from the business community, the New Jersey School Boards Association, and the New Jersey Congress of Parents and Teachers. Some members of these committees had also served on the original skills identification panels. Others were members recommended by various

educational associations. Individuals were selected for participation based on their experience and qualifications in the subject in which they would be reviewing test items. Most of the participants were experienced teachers/ supervisors from New Jersey public schools. Representation from all types of districts for each of the geographical regions of the state was sought (see Appendix E for names of committee members for 1985-86).

The test development committees were charged with ensuring the content validity of all the items which would ultimately appear on the final form of the test. To determine content validity, the items were reviewed to ensure that each item reflected the content it was written to represent. To help the committees focus on their task, forms were provided which were completed by each participant as each item was examined (Appendix F). These forms listed a series of questions to assist them in making decisions regarding the validity of every item offered by the test contractor. Further, the committee members were to give an overall evaluation for each item on a scale of one to five, with one being lowest and five being highest. Appendix F includes samples of these forms, as well as the instructions for their completion.

The committees met for three days in December, 1984, to discuss the items, make any revisions they felt would improve the items, and based upon their judgment of the validity of the items, select a subset of the initial list of items for field testing. Table 1 provides a summary of the revisions made during this process in 1985-86 on all items that were selected for field testing. The most typical changes were to revise one of the answer options or to make a minor change in the wording of the items (questions). Only four percent of the selected items required a major revision, and only six additional items were required by the review committees to replace items originally submitted.

As recommended by the skill development committee, all passages included in the reading test were developed with readability levels between grades eight and ten (as determined by the Dale-Chall readability formula), lengths of 200 and 300 words, and no more than four paragraphs. Each passage to be tested was further examined subjectively for ease of reading and interest level by the Reading Test Development Committee. A summary of the readability formula computations for the 16 passages included in the 1985-86 HSPT is provided in Table 2. Since the Dale-Chall formula provided estimates for only pairs of grades, a Dale-Chall "score" of grades seven to eight was considered as being within the grade eight range. Passages at that level were at the high end of the scale range and thus met the readability levels recommended by the skills committee.

TABLE 1

SUMMARY OF REVISIONS MADE TO FIELD TESTED ITEMS DURING THE ITEM REVIEW MEETINGS -- BY CONTENT AREA ACCORDING TO THE EXTENT AND TYPE OF CHANGE MADE

1985-86

Type/Extent of Revision	READING ITEMS Number	Percent	WRITING ITEMS Number	Percent	MATHEMATICS ITEMS Number	Percent	TOTAL ITEMS Number	Percent
No Change	105	80%	36	46%	85	66%	226	66%
1 option changed	11	8%	6	8%	12	9%	29	9%
2 options changed	3	2%	1	1%	1	1%	5	1%
3 options changed	0	0%	0	0%	0	0%	0	0%
4 options changed	0	0%	0	0%	2	2%	2	1%
Stem - Minor change	6	5%	14	18%	10	8%	30	9%
Numerals changed					1	1%		
Fewer than 5 words changed	1	1%	6	8%	0	0%	8	2%
One sentence changed	0	0%	2	3%	0	0%	2	1%
Two minor changes	3	2%	5	6%	3	2%	11	3%
Major change or rewrite	3	2%	9	11%	9	7%	21	6%
New items written/ requested	0	0%	0		6*	5%	6	2%
Total Number of Items Approved	132		79		129		340	

READING PASSAGES

Approved For Field Testing	17	
Rejected	8	

Of Field Test Passages

No Changes	7	41%
Fewer than 5 words changed	6	35%
One sentence changed/dropped	2	12%
Changes in more than 2 sentences	2	6%

TABLE 2

READABILITY INFORMATION ON THE PASSAGES INCLUDED ON THE HSPT READING TEST

1985-86

Passage	Topic	Number of Words	Number of Sentences		Average Sentence Length	% Words Off List	Dale-Chall Score	Readability Grade
A.	Icebergs	5	18	283	15.72	16.96	7.09	9-10
B.	Walt Whitman	5	18	344	19.11	18.90	7.57	9-10
C.	Louis Slugger	5	19	403	21.21	11.66	6.53	7-8
D.	New Jersey	3	13	181	13.92	15.47	6.77	7-8
E.	Dr. Mary Walker	5	19	411	21.63	17.76	7.53	8-10
F.	Cape May	5	20	425	21.25	20.47	7.92	9-10
G.	John Stevens	5	19	402	21.16	12.19	6.61	7-8
H.	Bicarbonate of Soda	4	15	274	18.27	14.23	6.79	7-8
I.	Battleship New Jersey	4*	16	366	22.88	16.39	7.36	9-10
J.	Swordfish	5	27	389	14.41	10.80	6.06	7-8
K.	Sarah Vaughan	3	12	254	21.17	20.47	7.92	9-10
L.	Harold's Job Search	5	25	310	12.40	13.23	6.34	7-8
M.	Atlantic City Piers	4	21	397	18.90	16.88	7.24	9-10
N.	Johnson Atelier	5	21	361	17.19	20.22	7.68	9-10
O.	Elizabeth Haddon	4	15	264	17.60	15.91	7.02	9-10
P.	Smoked Eel	6	23	381	16.56	16.54	7.07	9-10

Grades 7-8 6 passages
Grades 9-10 10 passages

* Plus a table

Item Bias

Following the review of items for content validity in December, 1984, by the reading, writing, and mathematics Test Development Committees, the items were reviewed by a second committee, the Minority Advisory Committee (MAC). The MAC consisted of members nominated by minority organizations from New Jersey or recommended by the Office of Equal Educational Opportunity (the committee members are listed in Appendix E).

This committee was responsible for reviewing each test item to ensure that there was no ethnic, cultural, or sexual bias in any of the items. As with the other committees, the MAC had complete freedom to revise any item which they believed was in some way biased. These changes were then incorporated in the test items for field testing.

Field Testing HSPT Items

Following the review committee meetings, items were field tested to gather empirical evidence about their validity and reliability. Items were organized into tests of 20-25 items in length, graphics were created, and items were sequenced. The field testing was conducted in the spring, at the conclusion of that year's test administration, with samples of ninth-grade students from selected school districts. The selection of school districts was based upon the District Factor Grouping (DFG) and the school's geographical location (north, central, south). These factors were considered so that the field test sample was representative of the state population and included urban, suburban, rural, and vocational districts proportionate to the total statewide distribution. Also, a minimum of 350 respondents was needed for each field test item.

When making the final selection of field test sites, priority was given to districts that were administering the HSPT in a large group setting (100 or more students). The reason for this priority was that the field test was administered to ninth-grade students at the conclusion of that year's HSPT writing test. Each student in the field test sample responded to one 20-25 item form and recorded his/her responses on that year's HSPT answer form in a space provided for the field test. Because of the time required for field testing, it was decided that each child would respond to a maximum of 25 items. Because the field test plan called for 350 responses per item and each student responded to only 20-25 items, many more then 350 students were needed. Thus, large group testing sites were necessary to keep the number of sites and test administrators manageable.

Items for the 1985-86 HSPT were field tested on April 16, 1985, at the conclusion of the writing section of the 1985 HSPT. The reading field test consisted of six 20-25 item forms and was administered to a total of 2,063 students. The mathematics test, composed of five forms, was administered to 1,972 students. The multiple-choice section of the writing test had four field test forms and was administered to 1,326 students. Because essay topics had been secured from previous field testing, no new essay topics were field tested in April, 1985.

All field test forms were administered by Department of Education personnel to maintain strict test security. To maintain this security, each field

test form was numbered sequentially and signed for by the field test administrators. The field test administrators were trained in the testing procedures and required to submit written reports for each site. Also, at the conclusion of each field test administration, the ethnic background of each student tested was recorded on his or her answer sheet to permit bias analysis. After field testing was completed, each form was accounted for and returned to the test contractor.

For each field test site, the test administrators also completed a report in which they identified any problems with students, testing procedures, or the site. Also included in the report was information on the timing of the test, such as the time needed for 80 percent of the students to complete each section and the percentage not completing each section. This information was used to determine the amount of time to be allowed on the final form of the test.

Analysis and Review of Field Test Data

The field test data were analyzed separately according to sex and ethnic group, as well as for the complete sample. The statistics computed for each item included (see Glossary, Appendix G):

- p-values
- response distributions
- point biserial correlation
- Rasch difficulty index
- Rasch fit index
- Rasch discrimination index
- bias analysis of Rasch difficulty difference
- p-value of top/bottom groups

Figures A and B are samples of the tables used to display the field test data for review by the TDC and the MAC. When reviewed by the committees, the table in Figure B would include the percentage of students choosing each of the responses in each of the ethnic groups and by sex.

The analyses which the TDC and MAC conducted on the field tests were recommended by the Technical Advisory Committee (TAC). The TAC consisted of nationally recognized experts in the fields of statistics, testing, and measurement and was charged with reviewing the technical aspects of the testing program (see Appendix E for TAC membership).

On the advice of the TAC, the following criteria were used to identify items for detailed review after field testing:

- Rasch fit index greater than 1.3
- Rasch discrimination index less than .80 or greater than 1.2 (if p-value is less than .25 or greater than .85)
- Point biserial correlation less than .30
- p-value less than .60 or greater than .95

These data were displayed in the table shown in Figure B for review by the TDC and the MAC.

NEW JERSEY STATE WIDE TESTING SYSTEM

ITEM ANALYSIS SUMMARY

AREA: MATHEMATICS

OBJECTIVE: (09) FIND A PERCENTAGE OF A NUMBER

FIELD TEST ACCOUNTS	ITEM NO.	(2) TECHNICAL COMMENTS	(3) P-VALUE	POINT BISER	(4) RASCH DIFF	RASCH FIT	RASCH DISC	RESPONSE (1) DISTRIBUTION A	B	C	D	OMIT	BIAS (B) ANALYSES RASCH DIFFICULTY DIFFERENCE B-W	H-W	H-F	P-VALUES OF TOP/BOTTOM GROUPS LOW 25%	TOP 25%
FORM 21 = 403																	
FORM 22 = 406																	
FORM 23 = 388																	
FORM 24 = 393																	
FORM 25 = 382																	
	4(24)	R S P	52	.47	0.74	1.24	0.67	21	52*	6	21	1				25	76
	5(24)	R	64	.64	0.03	0.79	1.35	10	18	64*	7	0				25	99
	6(24)		75	.47	-0.59	0.99	0.86	12	6	75*	7	0				48	96

(1) VALUES REPORTED AS PERCENTS. AN ASTERISK (*) INDICATES RIGHT ANSWER.

(2) F = FIT >1.3
R = RASCH DISCRIMINATION <.60 OR >1.2 (IF 25< P-VALUE <85)
D = POINT BISERIAL <.30
S = POSSIBLE SEX BIAS
B = POSSIBLE BLACK BIAS
H = POSSIBLE HISPANIC BIAS
P = 60 > P-VALUE > 95

(3) MEAN P-VALUE FOR FIELD TEST ITEMS = 064

(4) MEAN RASCH DIFFICULTY VALUE FOR FIELD TEST ITEMS = 0.06

(B) BIAS ANALYSES MUST BE INTERPRETED CAUTIOUSLY DUE TO SMALL SAMPLE SIZES.

Figure A

NEW JERSEY STATE WIDE TESTING SYSTEM

ITEM ANALYSIS SUMMARY

AREA: MATHEMATICS

OBJECTIVE: (89) FIND A PERCENTAGE OF A NUMBER

RESPONSE DISTRIBUTION (1)

ITEM NO.	BLACKS					WHITES					HISPANICS					MALES					FEMALES				
	A	B	C	D	OMIT	A	B	C	D	OMIT	A	B	C	D	OMIT	A	B	C	D	OMIT	A	B	C	D	OMIT
FIELD TEST																									
4(24)																									
5(24)																									
6(24)																									
	FORM 21 N = 40 FORM 22 N = 26 FORM 23 N = 34 FORM 24 N = 35 FORM 25 N = 39					FORM 21 N = 344 FORM 22 N = 345 FORM 23 N = 341 FORM 24 N = 343 FORM 25 N = 322					FORM 21 N = 7 FORM 22 N = 7 FORM 23 N = 4 FORM 24 N = 4 FORM 25 N = 10					FORM 21 N = 190 FORM 22 N = 182 FORM 23 N = 190 FORM 24 N = 182 FORM 25 N = 184					FORM 21 N = 211 FORM 22 N = 219 FORM 23 N = 189 FORM 24 N = 206 FORM 25 N = 194				

(1) VALUES REPORTED AS PERCENTS. AN ASTERISK (*) INDICATES RIGHT ANSWER.

Figure B

Following the field test analyses, the Test Development Committees and the Minority Advisory Committee reconvened in December, 1985, to review the test items for a second time. Each of the committees was scheduled for at least two days, but could meet longer if necessary.

It was explained to the committees that identifying an item meant that there might be something about the item that made it potentially invalid, unreliable, or biased and thus should be examined closely. Additionally, the committees were instructed to review all field tested items in light of the empirical data collected from field testing and displayed in the tables shown in Figures A and B.

During these reviews, some items were revised or omitted from the final form of the test. Most of the revisions made by the committees were minor in nature and included editorial or wording changes in the item stem, graphic, or option. Table 3 summarizes the changes made on the 1985-86 test. Most of the deletions involved omitting excess field tested items.

Following the review of the test items, the contractor assembled the final form of the test. In this process, care was taken to distribute the items among the three sections for each test so that the objectives would be spread evenly throughout the test. For example, all of the math problem-solving items would not be grouped together in one section. The final form of the test consisted of reading and mathematics in three 40-minute sections each, and writing in three 30-minute sections including the 30-minute essay section.

Table 4 provides a summary of the field test content by test and cluster, as well as a comparable breakdown for the final HSPT booklet. From this table it can be seen that more items were field tested than were actually used or intended for use in the final test. This process permitted some degree of freedom for the committees following field testing to select the best items without requiring extensive rewriting.

Conclusion

The test development process described in this document is repeated annually. Because the HSPT test booklets are kept by the school districts at the conclusion of testing each year, prior editions of the tests are no longer secure instruments and must be replaced. Therefore, although the HSPT skills remain the same from year to year, it is necessary to develop all new test items each year.

The interval between the initial writing of test items to production and distribution of the tests is approximately ten months and recurs annually, as has been described above. The only change in the program each year is the replacement of some of the members of the test development committees.

Each year approximately one-third of the committee members are replaced. This is done to bring new perspectives to the established item review process while at the same time broadening the involvement of New Jersey educators in the HSPT program. The new members are drawn from recommendations made by the various professional organizations and by the department's county office staff.

Finally, in a continuing effort to refine and improve the test development process, two additional procedures have been initiated. First, each time the reading passages and test items are reviewed and/or revised, the readabilities are recalculated; and second, all reading passages and test items and all mathematics word problems are edited by members of the writing committee.

TABLE 3

SUMMARY OF ITEM REVISIONS FOLLOWING FIELD TESTING -- BY TEST AND TYPE OF CHANGE

1985-86

Content Area	Number of Items in Field Test	Revisions			Items Eliminated*			Total Number of Items in HSPT
		Major	Minor	Total	Inapprop.	Extra	Skill	
Reading-Items	132	12	3	15	1	35	0	96
Passages	17	0	5	5	0	1	0	16
Writing	85	0	2	2	0	19	0	66
Mathematics	129	13	12	25	0	18	4	107

*Inappropriate - items eliminated by committees as being an inappropriate measure of the skill

*Extra - items eliminated because excess items were field tested for a given skill

*Skill - items not used in final version of the test

TABLE 4

NUMBER OF SKILLS AND ITEMS BY TEST AND CLUSTER REVIEWED BY COMMITTEES, FIELD TESTED, AND INCLUDED ON THE FINAL VERSIONS OF THE 1985 HSPT

AREA/CLUSTER	Number of Skills	Number of Test Items		
		Reviewed	Field Tested	Final HSPT
READING	32	284	132	96
Literal Comprehension	11	107	45	33
Inferential Comprehension	13	120	55	39
Study Skills	8	57	32	24
WRITING	12	104	85	67
Sentence Structure	5	50	42	30
Organization of Ideas	4	36	28	24
Editing	2	18	15	12
Essay	1	*	*	1
MATHEMATICS	45	208	129	107
Fractions	5	28	15	15
Decimals	3	16	9	9
Percents	3	14	9	6
Concepts	9**	29**	19**	16
Measurements & Geometry	11†	40	28	20
Pre-Algebra	4	23	13	12
Problem Solving	10	58	36	29

*Essay topics were field tested in 1984

**Two skills (four items) were reviewed and field tested at separate times from other items.

†Items for 12th skill were reviewed and field tested, but not used.

APPENDICES

APPENDIX A

SKILLS IDENTIFICATION PANEL

READING SKILLS PANEL

Ms. Phinnize J. Brown
Plainfield Public Schools

Mrs. Laurie Fitchett
New Jersey Congress of Parents and Teachers

Mr. W.F. "Bucky" Hatchett
RCA Staff Center

Mr. Chris Kjeldsen
Johnson & Johnson

Mr. John Klagholz
New Jersey State Board of Education

Ms. Adele Magnolia
Rahway Public Schools

Dr. Donald T. Maiocco
Ridgewood Public Schools

Ms. Judith Martinez-Rodriguez
New Jersey School Boards Association

Ms. Dorothy Minkoff
Trenton State College

Mr. Seymour S. Nowicki
Trenton Public Schools

Dr. James Swalm
Woodbridge Public Schools

MATHEMATICS SKILLS PANEL

Ms. Dorothy A. Alexander
Plainfield Public Schools

Mr. Drew Antale
Vineland Public Schools

Mr. Frank V. Carfagno
Greenwich Township Board of Education

Dr. Beatrice E. Eastman
William Paterson College

Mr. Thomas Hooper
Bloomfield Public Schools

Dr. Joseph A. Kreskey
Edison Public Schools

Ms. March Lehigh
New Jersey Congress of Parents and Teachers

Dr. Gustav Mellander
New Jersey State Board of Education

Mr. Donald Ryan
H.F. Henderson Industries

Mr. Janet Smith
Neptune Public Schools

Ms. Sybil J. Smith
Rutgers University

WRITING SKILLS COMMITTEE

Mr. Charles Barragato
Dumont Public Schools

Ms. Nancy Broz
Moorestown Township Public Schools

Mr. John Casey
Bridgewater-Raritan Public Schools

Ms. Billie Chambers
Educational Improvement Center of South Jersey

Dr. Miriam Chaplin
Rutgers University

Mr. June Dozier
Newark Board of Education

Ms. Rita Ezor
Weehawken Township Public Schools

Ms. Laurie Fitchett
New Jersey Congress of Parents & Teachers

Ms. Frances Lynn Galbraith
Lenape Regional Public Schools

Mr. V. Peter Jurjevich
Woodbridge Township Public Schools

Ms. Jeanette Lyde
Paterson Public Schools

Dr. Donald Maiocco
Ridgewood Village Public Schools

Mr. Elizabeth Marion
Essex County Vocational Public Schools

Dr. Helen McDonnell
Ocean Township Public Schools

Dr. John O'Breza
Cherry Hill Township Public Schools

Dr. Daniel O'Day
Kean College

Ms. Martha Palmere
West Windsor-Plainsboro Public Schools

Ms. Patricia Rubin
Glassboro State College

Ms. Willa Spicer
South Brunswick Public Schools

Ms. Sharon Smith
Paterson Public Schools

Ms. Frances M. Stevens
Metuchen Public Schools

Mr. Richard Swartz
Camden County College

Dr. William Walling
Rutgers University

Mr. Robert Wolfenbarger
New Jersey State Board of Education

NINTH GRADE SKILL AREA RESPONSE FORM

Organization: _____
Person completing form: _____
Number of people contacted: _____
Describe the feedback contacted: _____
_____

DIRECTIONS:
Please indicate if you agree or disagree with each skill area as stated for inclusion on the new 9th grade test. In those cases you disagree please offer your comments and suggestions.

SKILL AREA	AGREE	DISAGREE	COMMENTS AND SUGGESTIONS
I. Computation-Fractions (Basic Operations (Pages 1-2)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
II. Computation-Decimals (Basic Operations) (Page 3)			
12.			
13.			
14.			
15.			
16.			

APPENDIX C

STATE BOARD RESOLUTION

R E S O L U T I O N

WHEREAS, it is critical that the elementary and secondary schools prepare our students to become productive members of society, and

WHEREAS, a major aspect of this preparation is a statewide testing system which assesses the basic skills we believe are necessary to prepare our students for higher education and employment, and

WHEREAS, in January 1983, the State Board of Education approved the new statewide testing system, and

WHEREAS, multi-constituent committees have worked since mid-winter to identify the skills students should acquire through the educational process, now therefore be it

RESOLVED that the State Board of Education accept the Committee report and concur with the recommendation that the new statewide testing system be based on the skills as identified by the state committee.

_____
President, State Board of Education

_____
Secretary, State Board of Education

June 1, 1983

APPENDIX D

HSPT SKILLS

READING SKILLS ASSESSED ON THE HIGH SCHOOL PROFICIENCY TEST

I. Literal Comprehension/Vocabulary

a. Identify word meaning from multiple meanings
b. Identify synonyms
c. Differentiate between relevant and irrelevant information
d. Identify main idea of a passage
e. Identify details that support a main idea
f. Identify comparisons (similarities)*
g. Identify contrasts (differences)*
h. Identify cause and effect relationship
i. Identify events in sequence
j. Identify meaning of unfamiliar words from context
k. Identify appropriate word meaning by affixes

II. Inferential Comprehension/Vocabulary

a. Infer the main idea
b. Predict the outcome
c. Draw a conclusion
d. Infer a character's motives
e. Infer a writer's purpose/viewpoint
f. Distinguish between fact and opinion
g. Interpret figurative language (idioms, similes, metaphors)
h. Infer sequence, time order
i. Infer cause and effect relationship
j. Infer comparisons (similarities)
k. Infer contrasts (differences)
l. Synthesize information*
m. Make judgments

III. Study Skills

a. Complete outline by selecting topic/detail*
b. Use catalog cards to locate information
c. Use Reader's Guide to Periodical Literature*
d. Identify appropriate encyclopedia heading to find more information
e. Select words from specific dictionary page
f. Locate information in an index
g. Interpret data presented in visual form
h. Locate information from table of contents

* Skill added after the 1983-84 HSPT

GENERAL CONDITIONS USED TO CONSTRUCT TEST ITEMS

1. Reading skills, including vocabulary, will be tested in context whenever possible.

2. Reading selections will include expository and narrative materials with an emphasis on the expository.

3. The selections will be representative of text, magazine, and newspaper materials and will be suitable to the population being tested.

4. Selections will be no more than three to four paragraphs and contain between 200 and 300 words.

5. The materials will span grades eight to ten in difficulty.

6. A given passage will be used to test multiple skills.

7. The presentation of the materials on the page will reflect care in selection of type, size, spacing, and placement to facilitate ease of reading.

8. The test questions/purpose will precede the selections to be read where possible.

9. Reference sources and locating information will be tested through application using visual representations of the requisite materials.

10. When an item refers to a specific word(s) in a passage, the word(s) will be identified in some way (e.g., italics, underlining, etc.).

MATHEMATICS SKILLS ASSESSED ON THE HIGH SCHOOL PROFICIENCY TEST

I. Computation - Fractions

a. Add fractions
b. Subtract fractions
c. Add/subtract 3 fractions
d. Multiply fractions
e. Divide fractions

II. Computation - Decimals

a. Add and subtract decimals
b. Multiply decimals
c. Divide decimals

III. Computation - Percents

a. Find a percentage of a number
b. Find the percentage one number is of another
c. Find the total number when a percentage of that number is known

IV. Number Concepts

a. Find the number which completes a proportion
b. Identify place value in decimal numerals
c. Determine the correct ordering of a set of rational numbers
d. Identify a set of prime numbers or the prime factorization of a number
e. Demonstrate an understanding of scientific notation
f. Round decimal numerals
g. Demonstrate an understanding of set theory
h. Demonstrate an understanding of fraction/decimal percent equivalency
i. Estimate using the sums, differences, products, quotients, and square roots

V. Measurement and Geometry

a. Add, subtract, multiply, and divide measures using metric and U.S. standard units
b. Identify and define acute, obtuse, and right angles
c. Demonstrate an understanding of complementary/supplementary angles
d. Demonstrate an understanding that the sum of the measures of the angles of a triangle is 180 degrees
e. Find the volume of a cylinder, cone, pyramid, rectangular solid, or sphere
f. Find the perimeter of a polygon
g. Compute the area of a specified region
h. Compute the area of an irregular figure
i. Identify similar figures
j. Identify points on a coordinate plane
k. Demonstrate an understanding of parallel and perpendicular lines

VI. Pre-Algebra

a. Evaluate an expression
b. Simplify an expression
c. Solve an equation using multiple operations
d. Perform arithmetic operations on signed numbers

VII. Problem Solving

a. Read and interpret data from graphs
b. Estimate the shortest route between two points
c. Compare the percent and the fraction discount
d. Solve a percent problem involving sales tax
e. Solve a problem involving percent
f. Solve a probability problem
g. Identify the missing number of a set given the average and the other number values and compute the average of a series of numbers
h. Solve a problem involving proportions
i. Solve a word problem involving area and/or money
j. Solve a problem involving time and/or temperatures

GENERAL CONDITIONS USED TO CONSTRUCT TEST ITEMS

CLUSTER I: COMPUTATION - FRACTIONS

SKILL AREA		CONDITIONS USED TO CONSTRUCT TEST ITEM
The student will be able to:		
a. Add fractions	with:	- like/unlike denominators - with/without regrouping - vertical/horizontal format - two or three fractions - fractions/mixed numbers
b. Subtract fractions	with:	- like/unlike denominators - with/without regrouping - vertical/horizontal format - fractions/mixed numbers/whole numbers
c. Add/subtract 3 fractions		- additions followed by subtraction - horizontal format
d. Multiply fractions	with:	- whole numbers/proper fractions - mixed numbers/improper fractions - horizontal format
e. Divide fractions	with:	- whole numbers/proper fractions - mixed numbers/improper fractions - horizontal format

CLUSTER II: COMPUTATION - DECIMALS

SKILL AREA		CONDITIONS USED TO CONSTRUCT TEST ITEM
The student will be able to:		
a. Add and subtract decimals	with:	- decimals or whole numbers and decimals - with/without regrouping - with/without unequal place value - vertical/horizontal format
b. Multiply decimals	with:	- decimals or whole numbers and decimals - equal or unequal place value - zero as a place holder with one factor a power of ten - vertical/horizontal format
c. Divide decimals	with:	- whole number divisor, decimal divisor - decimal divisor/quotient less than one

		- divisors of 10, 100, 1000, etc. - zero embedded in the quotient between two numerals - whole number by a decimal-answer to 2 decimal places (no rounding)

CLUSTER III: COMPUTATION - PERCENTS

	SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
The student will be able to:		
a.	Find a percentage of a number	- percents greater than/less than 100
b.	Find the percent one number is of another	- percents greater than/less than 100
c.	Find the total number when a percentage of that number is known	- percents greater than/less than 100

CLUSTER IV: NUMBER CONCEPTS

	SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
The student will be able to:		
a.	Find the number which completes a proportion	- given a missing value in a sequence of ratios
b.	Identify place value in decimal numerals	- thousands to ten-thousandths
c.	Determine the correct ordering of a set of rational numbers	- comparing positive fractions - comparing integers - smallest to largest/largest to smallest
d.	Identify a set of prime numbers or the prime factorization of a number	- given four sets of numbers using one or two-digit numerals
e.	Demonstrate an understanding of scientific notation	- select the scientific notation of a numeral - evaluate an expression in scientific notation given a number greater than one thousand
f.	Round decimal numerals	- any place value from thousands to thousandths
g.	Demonstrate an understanding of set theory	- union, intersection, subset, null set, Venn diagram

h.	Demonstrate an understanding of fraction/decimal/percent	- convert fractions to decimals, decimals to fractions, fractions to percent, percent to fractions, decimals to percent, percent to decimals
i.	Estimate using the sums, differences, products, quotients, and square roots	- one or more operations

CLUSTER V: MEASUREMENT AND GEOMETRY

	SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
The student will be able to:		
a.	Add, subtract, multiply, and divide measures using metric and U.S. standard units	- weight, liquid, and linear measures - denominate numbers - regrouping within the system problem-solving format - converting measures within the system including square units
b.	Identify and define acute, obtuse, and right angles	- visual or verbal format
c.	Demonstrate an understanding of complementary/supplementary angles	- given two parallel lines cut by a perpendicular line/ transverse line - given an angle less than 90 degrees
d.	Demonstrate an understanding that the sum of the measures of the angles of a triangle is 180 degrees	- given two angles of a triangle
e.	Find the volume of a cylinder, cone, pyramid, rectangular solid, or sphere	- sketch of figure is presented - definitions of variables are presented, but values of the variables are to be determined from the figure - formula given for cylinder, cone, pyramid and sphere, but not for rectangular solid
f.	Find the perimeter of a polygon	- given a regular polygon and the length of one side - given an irregular figure and the length of all sides
g.	Compute the area of a specified region	- given two figures (rectangle, triangle, or circle and a shaded region); no formula given

h.	Compute the area of an irregular figure	- no formula given; using combination of rectangles
i.	Identify similar figures	- given sketches of figures, two of which are similar
j.	Identify points on a coordinate plane	- given points on a coordinate plane
k.	Demonstrate an understanding of parallel and perpendicular lines	- item could be visual or verbal - given two parallel lines cut by a perpendicular line

CLUSTER VI: PRE-ALGEBRA

	SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
The student will be able to:		
a.	Evaluate an expression	- with two variables and their respective whole number values - expressions with exponents
b.	Simplify an expression	- with two variables and no parentheses - using distributive property with one variable
c.	Solve an equation using multiple operations	- given a two-step problem with one variable (variable is a whole number or fraction)
d.	Perform arithmetic operations on signed numbers	- given several signed numbers and specified arithmetic operations

CLUSTER VII: PROBLEM SOLVING

	SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
The student will be able to:		
a.	Read and interpret data from graphs	- given a line, bar, or circle graph, including percentage of change
b.	Estimate the shortest route between two points	- given a scaled road map showing expressways and primary and secondary roads, determine the distance between two cities by traveling the shortest route
c.	Compare the percent and the fraction discount	- given different retail prices for the same object, one discounted in the form of a fraction and the other in terms of

		a percent, compute the least expensive; sales tax will be specified
d.	Solve a percent problem involving sales tax	- multi-step problem
e.	Solve a problem involving percent	- multi-step problems: - given two numbers, find percent one is of another - given a number and a percent discount, find sale price - given a percent and the amount saved, find original price - given a word problem requiring changing to a percent
f.	Solve a probability problem	- interpret and analyze data; draw inferences; make generalizations, predict outcomes and determine combinations
g.	Identify the missing number of a set given the average and the other number values and compute the average of a series of numbers	- given four or more numbers; do not state the number which indicates the average and all but one of the numbers
h.	Solve a problem involving proportions	- given information identifying three terms of a proportion, solve for the missing term
i.	Solve a word problem involving area and/or money	- multi-step involving conversion of units, price/unit, and total cost
j.	Solve a problem involving time and/or temperature	- multi-step problem

WRITING SKILLS ASSESSED ON THE HIGH SCHOOL PROFICIENCY TEST

I. Sentence Structure

a. Select a sentence revision that corrects an error in sentence construction.

b. Combine ideas into a well-constructed sentence.

c. Select words that complete a partially constructed sentence. Reconstruct the sentence.

d. Select transition words to complete a paragraph.

e. Identify the error within a sentence containing a usage error.

II. Organization of Ideas

a. Select the main idea for a paragraph.

b. Select a detail that supports a main idea.

c. Identify a detail inappropriate to the main idea.

d. Reorganize sets of sentences into a logical order.

III. Editing

a. Proofread and identify a mechanical error in a writing sample.

b. Identify mechanical errors in a writing sample and select appropriate corrections.

IV. Writing Sample

a. Write an essay on a stated topic. The student will be able to generate a written response to a topic that requires him or her to reflect on personal experiences and ideas.

GENERAL CONDITIONS USED TO CONSTRUCT TEST ITEMS

WRITING CLUSTER I: Sentence Structure

The description of conditions and the context in which each writing skill will be assessed on the HSPT provides information that will be useful in the planning and presentation of instructional programs. It is imperative that all staff members be familiar with these skills as the children progress through the grades.

SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
1. Sentence Structure Overview	
The student will be able to demonstrate knowledge of sentence structure by selecting sentence revisions which illustrate clarity of expression and appropriate knowledge of: A) subordination and coordination B) the correct use of modifiers C) correct use of standard English	
The student will be able to identify and correct errors in sentence construction:	
1. The student will be able to use verbs correctly and consistently.	
2. The student will be able to use standard written usage.	
3. The student will be able to avoid sentence fragments and run-on sentences.	
4. The student will be able to use pronouns correctly and consistently.	
5. The student will be able to place modifiers and modifying phrases properly.	

SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
6. The student will be able to use comparative words correctly.	
7. The student will be able to use parallel structure correctly.	

SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
I. Sentence Structure	Sentence structure will be assessed using the following five conditions:
A. Select a sentence revision that corrects an error in sentence construction.	A. Given a sentence which may contain an error in sentence construction, the student will read the sentence and select the best correction from four possible choices. NOTE: 1. The error may be related to a word, a phrase or a full sentence. 2. The error within the sentence will be underlined. 3. The underlined word will be repeated as the first answer choice.
B. Combine ideas into a well-constructed sentence	B. Given several stated ideas, the student will read each idea and select the sentence which most effectively combines the information into a well-constructed sentence. NOTE: Discriminate between levels of difficulty for test items and internally structured items to reflect variety: 1. items in a series 2. compound sentences 3. phrases and clauses within sentences
C. Select words that complete a partially constructed sentence. Reconstruct the sentence.	C. Given a sentence and a partial new construction of that sentence, the student will read what is given and select the words that correctly complete the newly constructed sentence. NOTE: The partial new construction of the given sentence will be underlined.

SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
I. Sentence Structure (continued)	
D. Select transition words to complete a paragraph.	D. Given a writing sample (a sentence or a paragraph), the student will read the writing sample and demonstrate an understanding of the relationship of ideas by selecting from four alternatives the appropriate transition for each incomplete sentence. NOTE: Test items will be structured to reflect: 1. comparison and contrast 2. cause amd effect 3. chronology
E. Identify the error within a containing a usage error.	E. Given a writing sample (a sentence or a paragraph) which may contain an error of usage, the student will read the writing sample and select the incorrect item. NOTE: The errors within the sentence or paragraph will be underlined.

SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
II. Organization of Ideas	
A. Select the main idea for a paragraph. The student will be able to select the best general statement (main idea) for a given set of related ideas.	A. Given a set of related ideas presented in paragraph format, the student will read the paragraph and select from four statements the most appropriate general statement (main idea) for that paragraph.
B. Select a detail that supports a main idea. The student will be able to substantiate a general statement of supporting detail.	B. Given a main idea presented in sentence format, the student will read the sentence and select from four possible supporting details that statement which best supports the main idea.
C. Identify a detail inappropriate to the main idea. The student will be able to substantiate a general statement (main idea) and identify details inappropriate to the main idea.	C. Given a set of related ideas presented in paragraph format, the student will read the paragraph and select from four statements the most inappropriate general statement (main idea).
D. Reorganize sets of sentences into a logical order. The student will be able to reorganize a set of ideas into a logical arrangement.	D. Given a set of sentences organized in a random manner, the student will read each sentence and logically reorganize the stated ideas by selecting from four sets of sentence combinations that set which most accurately constitutes a logical arrangement. NOTE: Test items will be structured to relect: 1. time sequence 2. classification

SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
III. Editing	
A. **Proofread and identify a mechanical error in a writing sample.** **The student will be able to proofread for the purpose of identifying common mechanical mistakes -- capitalization, punctuation and spelling.**	A. Given a sample of writing (a sentence or a paragraph) that may contain mechanical errors, the student will read the writing sample and recognize the error from four underlined choices.
B. **Identify mechanical errors in a writing sample and select appropriate corrections.** **The student will be able to proofread and identify common mechanical mistakes -- capitalization, punctuation and spelling.**	B. Given a sample of writing (a sentence or a paragraph) that may contain mechanical errors, the student will read the writing sample and recognize the error from four underlined choices and select the appropriate correction for the given error. NOTE: Spelling Word Source: Students' Essays - Field Test (fall administration) Students' Essays - HSPT (spring administration) The errors within the sentence or paragraph will be underlined.

SKILL AREA	CONDITIONS USED TO CONSTRUCT TEST ITEM
IV. Writing Sample	
A. Write an essay on the stated topic: The student will be able to write a response to a topic that requires him or her to reflect on personal experiences and ideas.	A. The essay topic selected will be one which allows a variety of student written responses. In order to evaluate the appropriateness of topic, the following elements need to be considered as selection criteria:
NOTE:	
1. Time allowance is provided for prewriting, writing and editing of the essay.	1. The student understands the topic and produces a written response that allows for responsible appraisal.
2. Every student will receive an essay topic sheet. The essay topic will be presented both in script and read aloud.	2. The topic allows the student to respond with specific examples and supporting detail.
3. Students will be directed to write on the topic given and do their best to write a clear, well-organized essay, using their best written English.	3. The topic elicits a range and variety of responses.
4. Students are allowed to print their essay or use cursive writing.	4. The topic provides for a statistically reasonable distribution of scores on a registered holistic scoring scale of 1 to 6.
5. A dictionary or any other reference material is <u>not</u> allowed during the test.	5. The topic does not elicit highly emotional responses from either writer or reader.
	6. The topic does not appear to favor any single group defined by gender or cultural background.
	7. The topic allows the student's writing to exhibit quality, appropriateness, and enthusiasm of response.
	8. The topic allows for a reasonable degree of scorer agreement.
	9. The topic realistically sustains reader interest over a period of time.

APPENDIX E

TEST DEVELOPMENT/TEST INTERPRETATION COMMITTEES

Mathematics

Dorothy A. Alexander
Plainfield Board of Education
925 Arlington Avenue
Plainfield, New Jersey 07060

Drew Antale
Vineland H.S.
Chestnut Avenue
Vineland, New Jersey 08360

Frank V. Carfagno
New Jersey School Bds. Assoc.
315 West State Street
Trenton, New Jersey 08618

Bernice Forrest
Pompton Lakes High School
Lakeside Avenue
Pompton Lakes, New Jersey 07442

Thomas Hooper
Bloomfield P.S.
155 Broad Street
Bloomfield, New Jersey 07003

Marcy Lehigh
NJ Congress of Parents & Teachers
900 Berkley Avenue
Trenton, New Jersey 08618

Anthony Moro
Eatontown P.S.
215 Broad Street
Eatontown, New Jersey 07724

Donald Ryan
Director of Engineering
H.F. Henderson Industries
45 Fairfield Place
West Caldwell, New Jersey 07006

Gloria Sanok
Wayne P.S.
Packanack Lake School
Wayne, New Jersey 07470

Robert Shanks
Edison Twp. P.S.
100 Municipal Blvd.
Edison, New Jersey 08817

Janet Smith
Neptune Township
Board of Education
2106 Bangs Avenue
Neptune, New Jersey

Sybil J. Smith
Rutgers University
Academic Foundations Center
175 University Avenue
Newark, New Jersey 07102

Ellen Subin
Lafayette and Evans Blvd.
Brigantine, New Jersey 08203

Philemon Washington
Jersey City P.S.
209 Bergen Avenue
Jersey City, New Jersey 07303

William J. Westphal
Audubon P.S.
Edgewood Avenue
Audubon, New Jersey 08106

Reading

Marie M. Adair
Vineland P.S.
Administration Office
625 Plum Street
Vineland, New Jersey 08360

Charles Barthe
Willingboro Schools
Levitt Building
Salem Road
Willingboro, New Jersey 08046

Caroline Borgers
Union City P.S.
3800 Hudson Avenue
Union City, New Jersey 07087

Phinnize J. Brown
Plainfield P.S.
Teaching Learning Center
925 Arlington Avenue
Plainfield, New Jersey 07060

Margaret A. Cagney
Glassboro State College
Department of Reading
Glassboro, New Jersey 08028

Anna Duval
Gloucester Twp. P.S.
Somerdale Road
Blackwood, New Jersey 08012

Adele Magnolia
Rahway P.S.
Kline Place
P.O. Box 42
Rahway, New Jersey 07065

Judith Martinez-Rodriguez
New Jersey School Bds. Assoc.
315 West State Street
Trenton, New Jersey 08618

Dorothy Minkoff
HUB-CPAD
Trenton State College
Trenton, New Jersey 08625

Seymour S. Nowicki
Trenton Board of Ed.
108 North Clinton Avenue
Trenton, New Jersey 08609

Richard O'Hara
Montgomery Twp. P.S.
Burnt Hill Road
Skillman, New Jersey 08558

James Swalm
Woodbridge Twp. Schools
Board of Education Offices
School Street
Woodbridge, New Jersey 07095

Writing

Charles Barragato
Dumont H.S.
101 New Milford Avenue
Dumont, New Jersey 07628

Billie Chambers
Haddon Twp. P.S.
MacArthur Blvd. & Rhoads Avenue
Westmont, New Jersey 08108

Frances Lynn Galbraith
Lenape Regional High School
Church & Hartford Roads
Medford, New Jersey 08055

V. Peter Jurjevich
Woodbridge Twp. Board of Ed.
Colonia Senior H.S.
East Street
Colonia, New Jersey 07067

Donald Maiocco
Ridgewood Village P.S.
49 Cottage Place
Ridgewood, New Jersey 07450

Elizabeth Marion
Essex County Vocational Schools
68 South Harrison Street
East Orange, New Jersey 07019

John O'Breza
Cherry Hill Twp. P.S.
Cherry Hill East H.S.
Kresson Roads
Cherry Hill, New Jersey 08003

Martha Palmere
West Windsor-Plainsboro H.S.
346 Clarksville Road
Princeton Junction, New Jersey 08550

Patricia Rubin
Glassboro State College
Annex A
Delsea Drive
Glassboro, New Jersey 08028

Willa Spicer
South Brunswick Board of Ed.
One Executive Drive
P.O. Box 181
Monmouth Junction, New Jersey 08842

Frances M. Stevens
Metuchen High School
400 Grove Avenue
Metuchen, New Jersey 08840

William Walling
Rutgers University
Highland Park/New Brunswick
018 Murray Hall
New Brunswick, New Jersey 08903

Donald Yates
Irvington P.S.
1150 Springfield Avenue
Irvington, New Jersey 07111

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MINORITY ADVISORY COMMITTEE

Petti Arthur
Trenton Urban League
209 Academy Street
Trenton, New Jersey 08625

Betty Gerena
Aspira Inc. of New Jersey
136 Washington Street
3rd Floor
Paterson, New Jersey 07505

Yolando Hunt
Trenton Urban League
209 Academy Street
Trenton, New Jersey 08625

G.C. Dallah
Mathematics Department
Union County College
Cranford, New Jersey 07076

Anne B. Hinton
Camden High School
Park & Baird Blvd.
Camden, New Jersey 08103

Grisel Lopez-Diaz
Jersey City P.S.
Bilingual Office
241 Erie Street
Jersey Plaza
Jersey City, New Jersey 07302

Joseph H. Williams
Rider College
P.O. Box 6400
Lawrenceville, New Jersey 08648

Bernice Davis
Administrative Assistant
to the Superintendent
Mitchell Building
500 North Broad Street
Elizabeth, New Jersey 07207

Hector Hoyo
Special Services
Perth Amboy P.S.
178 Barracks Street
Perth Amboy, New Jersey 08861

Rose S. Stahnten
Hillside P.S.
195 Virginia Street
Hillside, New Jersey 07205

TECHNICAL ADVISORY COMMITTEE

Dr. Jacob Beard, Professor
Department of Educational Research
307-E Stone Building
Florida State University
Tallahassee, Florida 32306

Dr. Irwin J. Lehmann
Michigan State University
College of Education, Erickson Hall
East Lansing, Michigan 48824

Dr. Douglas Penfield
Graduate School of Education
Rutgers University
10 Seminary Place
New Brunswick, New Jersey 08903

Dr. Roscoe C. Brown, Jr.
President
Bronx Community College
W. 181st St. & University Avenue
Bronx, New York 10453

Dr. Jason Millman
211 Stone Hall
Cornell University
Ithaca, New York 19853

Dr. Robert Rentz
R and R Evaluations
968 Ralph McGill Boulevard
Atlanta, Georgia 30306

2426j

APPENDIX F

COLLECTING ITEM CONTENT VALIDITY EVIDENCE

We are most concerned about making certain that every aspect of the High School Proficiency Test (HSPT) is based on sound and defensible procedures and that we have evidence to support our decisions. The purpose of this form is to help us gather evidence to verify the content validity of the HSPT.

When item writers write test questions, they attempt to generate flawless items that reflect the content each was written to represent (i.e. that are content valid). However, it is critical to gather expert judgmental evidence to verify that the items are indeed content valid and technically accurate. The data which we will collect on this form will help substantiate the content validity and technical accuracy. The data will be used to answer the following questions:

1. Which items failed to "match" the objective they were prepared to measure?

2. How successful were the test item writers?

3. How can the content validity data on the test items be used to rewrite objectives?

4. Are the items free from flaws, as for example, implausible distractors and multiple correct answers?

Instructions for Using the Essay Prompt Review Form

1. You will be given an objective or skill, a corresponding set of writing prompts, and an item review form.

2. Place your name and today's date in the space provided at the top of the Item Review Form.

3. Place the numbers corresponding to the prompts you are evaluating in the spaces provided near the top of the Item Review Form. The numbers should be in ascending order as you read from left to right.

4. Read the first prompt carefully and answer questions 1 to 8. Mark "Y" for "yes;" mark "X" for "no" and mark "?" if you are "unsure."

   The last question requires you to provide an overall evaluation of the prompt as an indicator of the objective it was written to measure.

   There are five possible ratings:

   5 = Excellent
   4 = Very Good
   3 = Good
   2 = Fair
   1 = Poor

5. Repeat the rating task for each available writing prompt.

Prompt Review Form
Essay

Reviewer _____

Date _____

Test Item Characteristics (Mark "✓" for Yes, "X" for No, and "?" for Unsure)

	Prompt Numbers
1. Is the essay prompt clearly written?	
2. Is the essay prompt appropriate for the group of examinees?	
3. Is the time limit stated?	
4. Is the wording of the prompt restricted enough so that examinees will understand the task, yet at the same time, allow for sufficient freedom to construct a response?	
5. Do the directions specify where examinees place their answers?	
6. Are examinees informed of the points alloted to the question and the weighting factor?	
7. Are all examinees informed of the audience who will read their essays?	
8. Are examinees informed of the materials they are and are not allowed to use when writing their essay?	
9. Disregarding any technical flaws which may exist (as represented by questions 1 to 8), how well do you think the content of the prompt matches the content defined by the objective? (Possible ratings: 1=poor, 2=fair, 3=good, 4=very good, 5=excellent)	

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Instructions for Using the Multiple-Choice Item Review Form

1. You will be given an objective or skill, a corresponding set of test items, and an item review form.

2. Place the test type, cluster name, objective number, your name, and today's date in the space provided at the top of the Item Review Form.

3. Place the numbers corresponding to the test items you are evaluating in the spaces provided near the top of the Item Review Form.

4. Read the first test item carefully and answer questions 1 to 16. Mark "Y" for "yes;" mark "X" for "no" and mark "?" if you are "unsure."

   The last question requires you to provide an overall evaluation of the prompt as an indicator of the objective it was written to measure.

   There are five possible ratings:

   5 = Excellent
   4 = Very Good
   3 = Good
   2 = Fair
   1 = Poor

5. Repeat the rating task for each available writing prompt.

Item Review Form
Multiple Choice

Test _____ Reviewer _____

Cluster _____ Date _____

Objective No. _____

Test Item Numbers

Test Item Characteristics (Mark "✓" for Yes, "X" for No, and "?" for Unsure)

1. Does the test item follow the conventions of standard edited English and usage?
2. Does the test item contain a vocabulary or reading factor which will act as an irrelevant source of difficulty?
3. Does the stem present a self-contained question or problem?
4. Does the stem contain as much of the item's content as possible?
5. When appropriate, is the stem free of irrelevant data?
6. If possible, have negatively stated stems been avoided?
7. Are all negatives underlined?
8. Is there one correct answer or best answer?
9. Was the correct answer randomly positioned or correctly placed in the logical sequence of choices?
10. Are all the distractors plausible?
11. Are all the alternatives of approximately the same length?
12. Are there grammatical clues between the item and the alternatives? (eg. tense)
13. Do any of the distractors overlap such that an examinee could eliminate these distractors simultaneously?
14. Are the alternatives as homogeneous as possible? (eg. same type)
15. Does the item have suitable test directions?
16. Do the directions to the test item clearly specify whether the correct or best answer should be chosen?
17. Disregarding any technical flaws which may exist in the test item (as represented by questions 1 to 16), how well do you think the content of the test item matches the content defined by the objective?
    (Possible ratings: 1=poor, 2=fair, 3=good, 4=very good, 5=excellent)

APPENDIX G

GLOSSARY

The following terms are defined in the context of the development of the HSPT.

benchmark skills - Primary and intermediate reading, mathematics, and writing skills which, when mastered, would lead to the mastery of the grade nine HSPT skills.

bias analysis of Rasch difficulty index - Comparison of Rasch item difficulty value computed separately by sex and ethnic group for the identification of biased test items.

competency test - An achievement test that measures the level of skill possessed by test takers in relation to some defined domain of skills.

conditions for assessing skills - The formats to be used for assessing a skill. e.g., the items used to assess addition of fractions shall use both vertical and horizontal formats.

content validity - Evidence that shows the extent to which the content of a test is relative to its intended purpose, e.g., is a test item representative of all items which could have been used?

Dale-Chall Readability Formula - One of several frequently-used techniques used to determine the readability level of selected reading passages.

District Factor Grouping (DFG) - A scale based upon the 1980 census which is used to group New Jersey school districts into one of ten socioeconomic groups.

field test - An administration of the proposed test items for each year's HSPT to collect statistical information on the validity and reliability of the items.

High School Proficiency Test (HSPT) - The grade nine reading, mathematics, and writing test which serves as the high school graduation testing requirement.

item(s) - A question on the HSPT.

item bias - Do any of the test items bias, or place at a disadvantage, a student because of his or her sex, culture, or ethnic background?

item development process - The annual, comprehensive process by which each year's HSPT is developed, including: item writing, item review, and field testing.

Minimum Basic Skills (MBS) Test - The first New Jersey competency test which assessed mastery of minimum essential skills in reading and mathematics. This test has been replaced by the HSPT.

Minority Advisory Committee (MAC) - The test development committee charged with eliminating any potential bias from the HSPT items.

New Jersey College Basic Skills Placement Test (NJCBSPT) - A basic skills test administered by the Department of Higher Education to matriculated college freshmen to identify students in need of basic skills remediation.

objective - A skill to be assessed by an item(s) on the HSPT.

p-values - Percent of students tested who responded correctly on each test item.

p-values of top/bottom groups - A ratio. The percentage of students with scores in the top 25% who responded correctly to an item as compared to that percentage responding correctly whose scores were among the bottom 25%.

point bisereal correlation - Degree of relationship between a continuous measure (total test score) and a dichotomous measure (right or wrong on a test item). It is used to determine how consistent performance on a test item is with overall test performance.

prototype items - Example of item formats to be used in assessing the HSPT skills.

Rasch difficulty - Defined such that a test taker of a given ability has a 50 percent chance of getting the item correct.

Rasch fit index - Indicates how well a test item conforms to the assumptions of the Rasch model. Items with high indices enhance the interpretability of test results.

readability - The level of difficulty assigned to a reading selection through use of a readability formula index. Usually expressed as a grade level equivalent.

response distribution - Percent of respondents selecting each of the response alternatives on a multiple-choice test item

Request for Proposal - (RFP). The specifications for the conduct of the HSPT asking interested parties to respond as to how they would produce the test.

skill(s) - The ability to be demonstrated by correctly responding to specific items on the HSPT. Sometimes referred to as a test objective.

Technical Advisory Committee (TAC) - A committee of nationally recognized experts in the fields of statistics and testing and measurement which meets annually to review the technical aspects of the HSPT program.

Test Development Committee (TDC) - Committees of subject specialists who meet twice annually to review and select the items that will comprise the HSPT.

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